

Gummy Bear Lab

Pre-lab Discussion Sheet

Name _____

Purpose:

To practice measurement skills using correct procedures and significant figures.

Problem:

You and your group work in the packaging and shipping division of the Willy Wonka Candy Factory. Your company would like to mail out sample packages of their new sour gummy bears to perspective clients. Your job is to determine **how many bears will fit in the package** and **what the mass of the package will be once filled** so that serving sizes and nutritional information can be determined.

Group Discussion Question:

Make a list of questions that you have regarding the above task.

Target Questions:

1. Make a list of the materials needed for completing the above task.

2. Make a list of vocabulary and any formulas needed for completing the above task.
3. Make a list of the measurements needed to complete the above task.
4. How will each measurement be taken? List **at least two** different methods for determining each measurement.
5. Write a procedure for accomplishing the above task.

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Analysis and Conclusion

Name _____

1. Follow the class procedure to collect mass and volume measurements for **two** sour gummy bears. **Remember** there are two ways to measure mass and two ways to measure volume.

Bear One:

Electronic Mass	_____ g	Volume by Displacement	_____ mL
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Triple Beam Mass	_____ g	Volume by LxWxH	_____ cm ³
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Bear Two:

Electronic Mass	_____ g	Volume by Displacement	_____ mL
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Triple Beam Mass	_____ g	Volume by LxWxH	_____ cm ³
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2. Class Data Collection: Construct a data table to collect class data in.

3. Data Analysis:

- a) Which method is best for measuring mass: using the electronic balance or the triple beam balance? Why?
- b) Which method is best for measuring volume: using a ruler or measuring by displacement? Why?

- c) The package measures 1.00 cm x 7.00 cm x 16.00 cm. Based on your average measurements for mass and volume determine how many bears will fit in the package and what the total mass of the bears in the package will be. Show your work.

_____ sour gummy bears will fit in the package
and its mass would be _____ g .

4. Conclusion: In the space below write a letter to the plant manager explaining:

- a) which method is best for mass and why
- b) which method is best for volume and why